

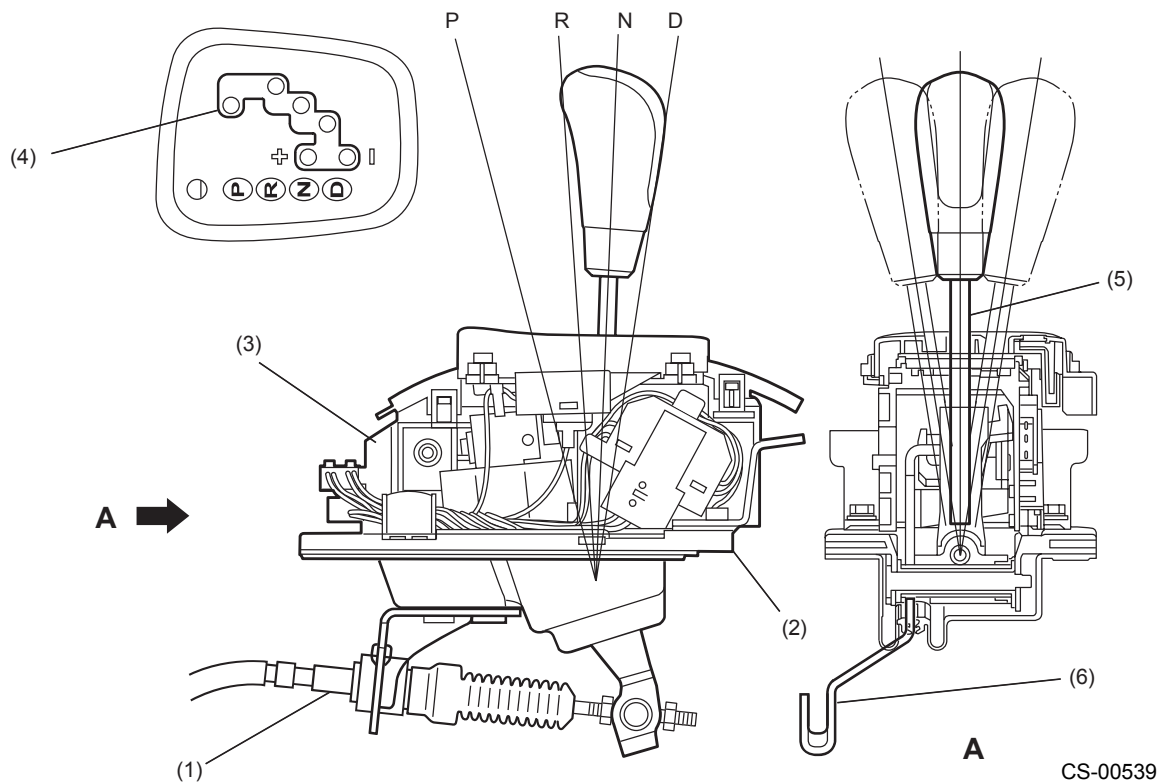
# **CONTROL SYSTEM (AUTOMATIC)**

# SELECT LEVER

## CONTROL SYSTEM

### 1. Select Lever

- The automatic transmission select lever can be moved to any of the 4 ranges and the transmission enters sports mode when the lever is moved laterally from D range, and further switches to sports shift mode (manual mode) when the lever is moved forward (“+” direction) or rearward (“-” direction).
- The select lever makes shift direction (longitudinal) movements as well as select direction (lateral) movements. The select lever is guided by a gate to make these movements.
- In the sports shift mode, the transmission upshifts when the selector lever is moved forward (“+” direction) and downshifts when the lever is moved rearward (“-” direction).
- To transmit movements of the select lever to the transmission, a select cable is used.
- The select lever mechanism has a detent spring. It ensures more precise positioning of the select lever.



- (1) Select cable
- (2) Base plate, lower
- (3) Base plate, upper
- (4) Gate

- (5) Select lever
- (6) Arm
- (A) View A

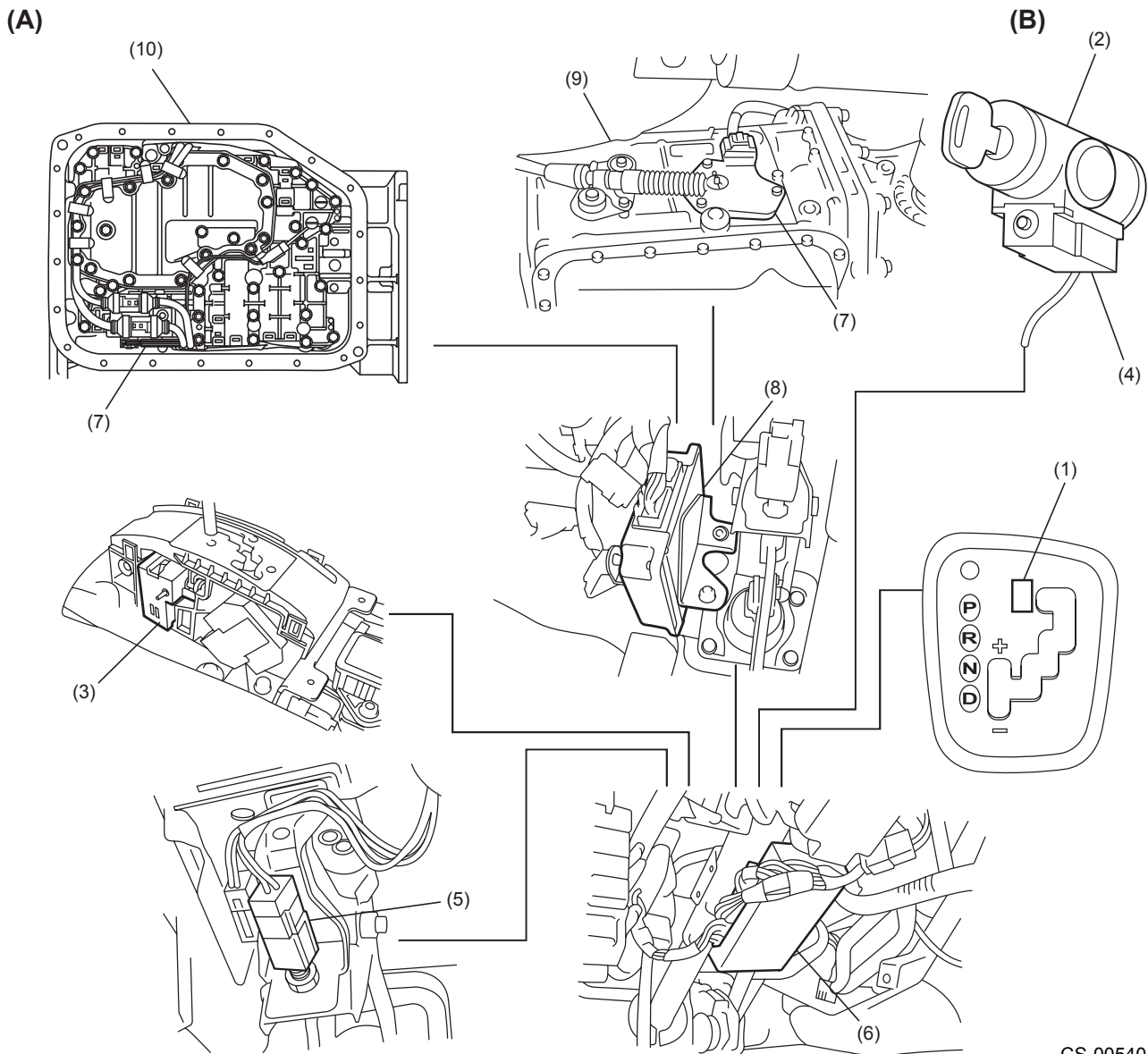
## 2. Shift Lock and Key Interlock System

### A: GENERAL

To increase safety during standing start, the shift lock system prevents movement of the select lever from the “P” position to any other position unless the brake pedal is depressed. This system is also provided with a key interlock function which prevents removal of the ignition key from the key cylinder unless the selector lever is placed in the “P” position.

# SHIFT LOCK AND KEY INTERLOCK SYSTEM

## CONTROL SYSTEM



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### (A) Shift lock system

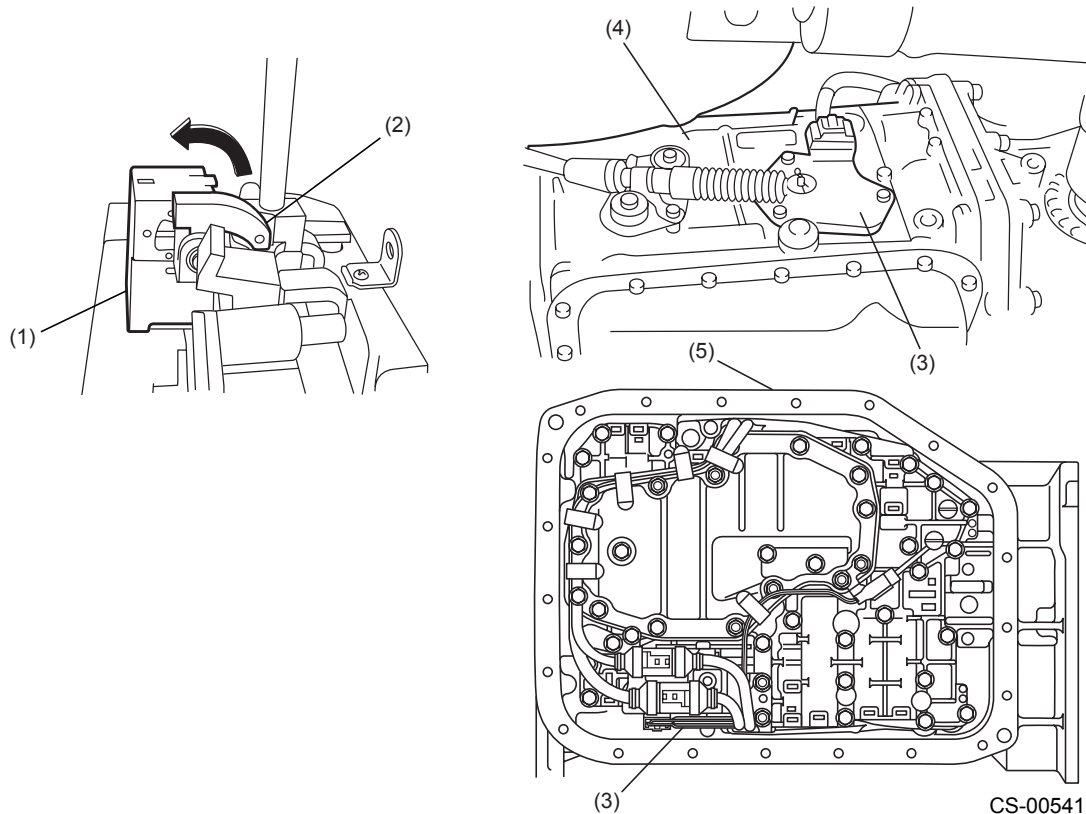
- (1) "P" position switch
- (2) Key cylinder
- (3) Shift lock solenoid
- (4) Key lock solenoid
- (5) Brake pedal switch

### (B) Key interlock system

- (6) Body integrated unit
- (7) Inhibitor switch
- (8) TCM
- (9) 4AT
- (10) 5AT

## B: SHIFT LOCK SYSTEM OPERATION

The shift lock system has a solenoid-operated plunger (1). With the select lever in the P position, the plunger remains extended, holding the lock arm (2) in its pushed out (locking) position. When the brake pedal is depressed with the ignition switch in either the ON or START position, the solenoid is energized and the plunger is retracted. This causes the lock arm to lift to the select lever release position. The select lever now can be moved to any other position. The P position of the select lever is detected by the inhibitor switch (3).



- (1) Solenoid
- (2) Lock arm
- (3) Inhibitor switch
- (4) 4AT
- (5) 5AT

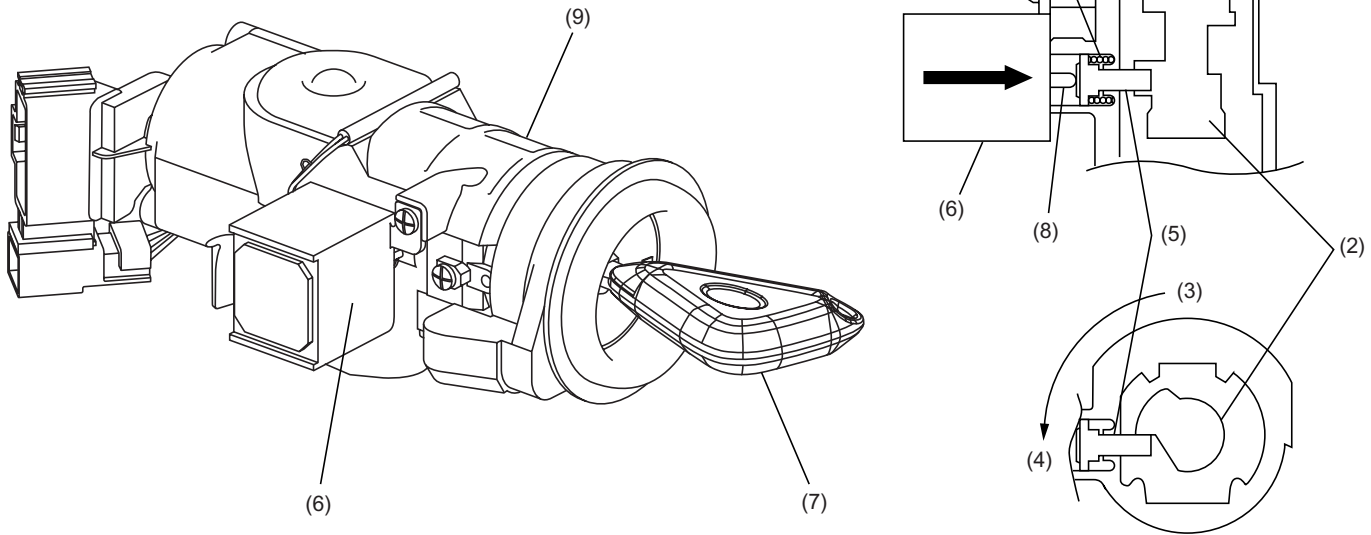
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# SHIFT LOCK AND KEY INTERLOCK SYSTEM

## CONTROL SYSTEM

### C: KEY INTERLOCK FUNCTION

● When the select lever is at any position other than P, the solenoid is energized and its guide pin extends to hold the lock pin in its pushed out position. Held in its extended position, the lock pin interferes with the stopper portion of the rotator which turns together with the ignition key. Thus, the ignition key cannot be rotated to the "LOCK" position.



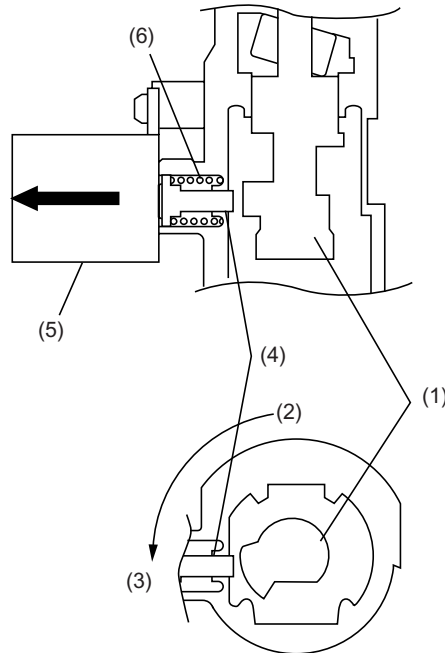
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- |                    |                  |
|--------------------|------------------|
| (1) Return spring  | (6) Solenoid     |
| (2) Rotator        | (7) Key          |
| (3) START position | (8) Guide pin    |
| (4) LOCK position  | (9) Key cylinder |
| (5) Lock pin       |                  |

# SHIFT LOCK AND KEY INTERLOCK SYSTEM

CONTROL SYSTEM

- When the select lever is moved to “P”, the “P” position switch in the select lever assembly operates, deenergizing the solenoid. As the push force of the guide pin is removed, the return spring moves the lock pin toward the solenoid and the lock pin becomes clear of the rotator stopper. Then the key can be rotated to the LOCK position and removed from the ignition switch.



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- (1) Rotator
- (2) START position
- (3) LOCK position
- (4) Lock pin
- (5) Solenoid
- (6) Return spring

# SHIFT LOCK AND KEY INTERLOCK SYSTEM

CONTROL SYSTEM

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**MEMO**